

REMARKS

This responds to the Office Action mailed on May 18, 2005.

Claims 14 and 27 are amended, claim 33 is canceled, and claims 19-26 are withdrawn.

As a result, claims 1-32 are now pending in this application.

Objections to Claims

Claims 32 and 33 were objected to due to informalities. Claim 33 was canceled.

§103 Rejection of the Claims

Claims 1-3, 6-18 and 30-33 were rejected under 35 USC § 103(a) as being unpatentable over Shermer, IV et al. (U.S. 6,429,513 B1) in view of Tao (U.S. 6,410,981 B2). Applicant respectfully traverses the rejections and requests the Office to consider the following.

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. In re Vaack, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). (M.P.E.P. § 2143 8th Ed, Rev.1).

The Office Action admits that Shermer “shows ... elements of the claims except the channels formed in the container barrier.” (Office Action at pages 2 and 3). The Office Action asserts “Tao shows (figs. 1 and 3) that a package, including a heat dissipater (heat sink) comprises a container barrier (2) disposed on a heat spreader die side. The container barrier further comprises channels (12 and 11) formed through it” (Office Action at page 3). Applicant respectfully disagrees. The “strengthening ring (2)” of Tao, referred to as a container barrier by the Office, has no channels (12 and 11) (Tao) formed through it. Tao’s vents (11 and 12) are formed “at the margins of the cap 1.” (Tao at col. 4 line 15). Structurally, the

combination of Shermer with Tao fails to teach the limitations of claim 1 of “a channel through the container barrier”. (Claim 1). Because all the claim limitations are not taught in the cited references, withdrawal of the rejection is respectfully requested. Applicant notes that claims 2-9 and 30-31 depend from claim 1 and are therefore also not rendered obvious by the cited references. Withdrawal of the rejections is respectfully requested.

Regarding independent claim 10, the Office Action also admitted that Shermer “shows ... elements of the claims except the channels formed in the container barrier” and that “[t]he container barrier further comprises channels (12 and 11) formed through it” (Office Action at pages 2 and 3). Again, the “strengthening ring (2)” of Tao, referred to as a container barrier by the Office, has no channels (12 and 11) (Tao) formed through it. Tao’s vents (11 and 12) are formed “at the margins of the cap 1.” (Tao at col. 4 line 15). Structurally, the combination of Shermer with Tao fails to teach the limitations of independent claim 10 of “a first channel through the container barrier”. (Claim 10). Because all the claim limitations are not taught in the cited references, withdrawal of the rejection is respectfully requested. Applicant notes that claims 11-18 and 32-33 depend from claim 10 and are therefore also not rendered obvious by the cited references. Withdrawal of the rejections is respectfully requested.

Claims 4 and 5 were also rejected under 35 USC § 103(a) as being unpatentable over Shermer, IV et al. in view of Tao, and further in view of Studebaker (U.S. 6,448,637 B1). Applicant respectfully traverses the rejections and requests the Office to consider the following.

The Office action admits, among other things, that “Shermer, IV and Tao show all the elements of the claims except ... the channels formed through the container barrier” Applicant concurs. The characterization of Tao’s “strengthening ring (2)” as the container barrier as claimed instantly, creates an illogic to assert “channels (12 and 11)” are in the container barrier. The “strengthening ring (2)” of Tao, referred to as a container barrier by the Office, has no channels (12 and 11) (Tao) formed through it. Tao’s vents (11 and 12) are formed “at the margins of the cap 1.” (Tao at col. 4 line 15). Structurally, the combination of Shermer with Tao fails to teach the limitations of claim 1 of “a channel through the container barrier”. (Claim 1), and Studebaker adds nothing to remedy this deficiency. Because all the claim

limitations are not taught in the cited references, withdrawal of the rejection is respectfully requested.

Claims 27-29 were also rejected under 35 USC § 103(a) as being unpatentable over DiGiacomo et al. (U.S. 6,085,831) in view of Homer et al. (U.S. 2002/0154483 A1) and Tao. Applicant respectfully traverses the rejections and requests the Office to consider the following.

The Office action again asserts that Tao teaches the “strengthening ring (2)” as the container barrier as claimed instantly, and “channels (12 and 11) formed through it” (Office Action at page 6). Applicant has respectfully asserted that the “strengthening ring (2)” of Tao, referred to as a container barrier by the Office, has no channels (12 and 11) (Tao) formed through it. Tao’s vents (11 and 12) are formed “at the margins of the cap 1.” (Tao at col. 4 line 15). Structurally, the combination of DiGiacomo with Homer and further in view of Tao, fails to teach the limitation of claim 27 of “a channel through the container barrier”. (Claim 27). Because all the claim limitations are not taught in the cited references, withdrawal of the rejection is respectfully requested.

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Title: LIQUID SOLDER THERMAL INTERFACE MATERIAL CONTAINED WITHIN A COLD-FORMED BARRIER AND METHODS OF MAKING SAME

Assignee: Intel Corporation

Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney, John Greaves at (810) 278-9171, or Applicant's below-named representative to facilitate the prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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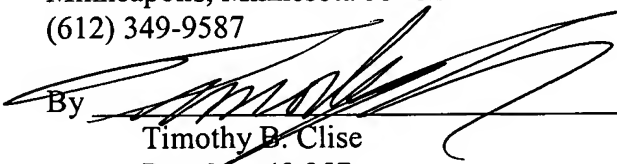
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Date

18 Aug '05

By


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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 18th day of August 2005.

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